

Opposed-Piston Engine Achieves Significant Emissions Milestone for Commercial Vehicles

Results meet 2027 requirements of the U.S. EPA and California

SAN DIEGO, December 17, 2020 - Achates Power's innovative 10.6L opposed-piston heavy-duty powertrain has achieved performance results that comply with pending 2027 requirements of the U.S. Environmental Protection Agency (EPA) and California to sharply reduce emissions of nitrogen oxides (NO_x). Engine and aftertreatment system development and performance assessments were conducted at the Achates Power facility in San Diego and the Aramco Research Center-Detroit.

It is a major development for a project that aims to improve the environmental performance of commercial vehicles. The most recent test of the engine, including aftertreatment, measured 0.02g per brake horsepower-hour (g/bhp-hr), demonstrating the capability of the engine to be certified under California's ultra-low NO_x regulation, which requires diesel commercial vehicle engines to reduce NO_x by 90 percent by 2027 - to no more than 0.02g/bhp-hr over the Federal Test Procedure (FTP) cycle.

Furthermore, the 10.6L was measured at more than eight percent below the current standard of 460g CO₂, exceeding the 2027 EPA regulations of 432g of CO₂ over the Supplemental Emissions Test (SET) cycle. These results were achieved with a conventional, underfloor-only, single Diesel Exhaust Fluid (DEF) injection aftertreatment system, which makes the whole powertrain system less complex and less expensive, and reduces the risk of non-compliance with emissions regulations.

"These results show that the Opposed-Piston technology is able to meet our sustainable transportation goals, reducing criteria pollutants while also emitting less carbon dioxide," said David Crompton, president and CEO, Achates Power. "At a time when the industry is contemplating many technology options to address clean energy it's important to have pragmatic solutions in the conversation that can have more immediate impact, and meeting or beating the most stringent regulations with less cost and complexity and no reliance on enabling infrastructure is compelling."

The 10.6L opposed-piston engine was developed as part of a demonstration project, led by CALSTART and funded by the California Air Resources Board (CARB), to demonstrate a low CO₂, ultralow NO_x opposed-piston heavy-duty diesel engine. In addition to CARB, the South Coast Air Quality Management District, the San Joaquin Valley Air Pollution Control District and the Sacramento Metro Air Quality Management District are providing funding for the program.

About Achates Power, Inc.

The Achates Power Opposed-Piston Engine is engineered to meet future emissions and fuel economy standards more cost effectively than any other solution. Founded in 2004 with the mission to build cleaner, more efficient engines, the company has an experienced staff of engineers and scientists working with leading engine manufacturers to bring the OP Engine to market. Achates Power is backed by the Oil and Gas Climate Investments; Sequoia Capital Partners; RockPort Capital Partners; Madrone Capital Partners; InterWest Partners; and, Triangle Peak Partners. For more information visit www.achatespower.com.

About Aramco Americas

Aramco Services Company (d/b/a Aramco Americas) is the U.S.-based subsidiary of Saudi Aramco, a world leader in integrated energy and chemicals, and has had a presence in the U.S. for more than 60 years. Aramco Americas is a contributor to the U.S. energy sector through research and development, venture fund activities, asset ownership, as well as technology and digital transformation. The company is headquartered in Houston, and maintains offices in New York, Washington D.C., Boston, and Detroit. ASC is committed to being a positive contributor in the communities where its employees live and work, and to making a difference through outreach that benefits the arts, geosciences, education and the environment.

#

Media Contact

Larry Fromm

Achates Power

+1 858.535.9920 x 210

fromm@achatespower.com